BTEC Assignment Brief

Qualification	Pearson BTEC International Level 3 Subsidiary Diploma in Engineering Pearson BTEC International Level 3 Foundation Diploma in Engineering Pearson BTEC International Level 3 Diploma in Engineering Pearson BTEC International Level 3 Diploma in Electrical and Electronic Engineering Pearson BTEC International Level 3 Diploma in Mechanical Engineering Pearson BTEC International Level 3 Diploma in Digital Engineering Pearson BTEC International Level 3 Diploma in Manufacturing Engineering Pearson BTEC International Level 3 Diploma in Aeronautical Engineering Pearson BTEC International Level 3 Extended Diploma in Engineering Pearson BTEC International Level 3 Extended Diploma in Electrical and Electronic Engineering Pearson BTEC International Level 3 Extended Diploma in Mechanical Engineering Pearson BTEC International Level 3 Extended Diploma in Digital Engineering Pearson BTEC International Level 3 Extended Diploma in Manufacturing Engineering Pearson BTEC International Level 3 Extended Diploma in Aeronautical Engineering
Unit number and title	**Unit 41: Manufacturing Secondary Machining Processes**
Learning aim(s)	**D:** Review the processes used to machine a component and reflect on personal performance
Assignment title	Review and reflection on secondary machining processes and personal performance
Assessor	
Issue date	
Hand in deadline	

Vocational Scenario or Context	You are working as a final year apprentice in the machine shop of a medium sized engineering company. Your supervisor is pleased with your work and your ability to operate machinery to carry out secondary machining processes. Your supervisor would now like you to produce a reflective report, based on what happened when you set-up and carried out the secondary machining processes, in which you identify what went well, what could have gone better and what you can take forward to the next stage of your development as an engineer.

Task 1	You have been asked to review and reflect on the practical activities you carried out when setting-up and using secondary machining processes to manufacture a component. You now need to produce a report that considers the 'lessons learnt' during the activities. **To do this:** You will need to collate your evidence from Assignment 2. You should then review and reflect on the activities that you completed and behaviours that you showed when setting-up and using secondary machining processes to produce a component. **You will then:** Prepare a report that evaluates the lessons learnt from using secondary machining processes - include: • what went well; • what could be done differently next time; and • a conclusion on what improvements could be made, with particular reference to the set up and use of traditional secondary machining processes and to relevant behaviours Your report should cover the following: • The actions taken to manage health and safety in the workplace with an analysis of how successfully they were applied; for example, what personal protective equipment was used and whether any unforeseen issues occurred and were dealt with • The traditional secondary machining skills that were used with an analysis of how successfully they were applied; for example, how the intended surface texture/dimensional accuracy was achieved, how holes were centred accurately and how set-up and use of the machining processes and equipment could be altered to make manufacture of the components more efficient, accurate and/or sustainable • The general engineering skills that were used with an analysis of how successfully they were applied; for example, interpreting drawings and recognising technical parts of machines • The relevant behaviours that were used, with an analysis of how successfully they were applied; for example, good communication and problem solving resulting in a worn tool being replaced and an activity running smoothly, or how taking initiative and responsibility for their own actions, such as when setting and adjusting the machines, shows independence and professionalism.
Checklist of evidence required	A report attached to the portfolio from Assignment 2 that reviews the processes used and reflects on own performance.

Criteria covered by this task:	
Unit/Criteria reference	To achieve the criteria you must show that you are able to:
41/D.D3	Demonstrate consistently good technical understanding and analysis of traditional secondary machining processes, including the application of relevant behaviours and general engineering skills to a professional standard
41/D.M4	Recommend improvements to the set up and use of traditional secondary machining processes and to the relevant behaviours applied
41/D.P5	Explain how health and safety, traditional secondary machining, and general engineering skills were applied effectively during the manufacturing process
41/D.P6	Explain how relevant behaviours were applied effectively during the manufacturing process

Sources of information to support you with this Assignment	**Books** Black B J – *Workshop Processes, Practices and Materials* 5th Edition (Routledge, 2015) ISBN 1138784727. Reflective writing; Williams K, Williams M, Spiro J; Palgrave McMillan (2012); ISBN 978 0 230 37725 7 Report writing; Reid M; Palgrave McMillan (2012); ISBN 978 0 230 37655 7 **Website** hse.gov.uk/work-equipment-machinery/standard.htm Above are some examples of websites. Further useful resources may be found at qualifications.pearson.com/en/support/published-resources.html#step1